From: "Brelsford, Taylor" <taylor.brelsford@urs.com>
To: "Don Kuhle" <Don.P.Kuhle@usace.army.mil>
"Shearer, Amanda M POA" <Amanda.M.Shearer@usace.army.mil>
jeff.bruno@alaska.gov
Jen.Mark@epa.gov
dennis.hinnah@dot.gov
brian.lance@noaa.gov
mcobbs@blm.gov
david.m.seris@uscg.mil
bbcc@starband.net
(b) (6)
"Alexie, Moxie" <moxie.alexie@urs.com>
ctc.robertgolley@gmail.com
ctc_env@yahoo.com
chuathtradcouncil@gmail.com
crowvillage@gmail.com
napaimute@gci.net
dcannonnapaimuteed@earthlink.net
village_of_lower_ta@yahoo.com
kathryn.thalhauser@georgetowntc.com
will.hartman@georgetowntc.com
ppavila@tuntutuliaktc.org
gary.mendivil@alaska.gov
wong.herman@epa.gov
godsey.cindi@epa.gov
fordham.tami@epa.gov
director@kuskokwimcouncil.org
groczicka@nativecouncil.org
"Trimble, Stephen" <stephen.trimble@urs.com>
"Isaacs, Jon" <jon.isaacs@urs.com>
"Suzanne Ban" <suzanne.ban@cardno.com>
"Phil Brna" <phil_brna@fws.gov>
"Jennifer Spegon" <jennifer_spegon@fws.gov>
"McKinley, Lee \(PCO" <william.mckinley@alaska.gov>
BCharles@kniktribe.org <william.mckinley@alaska.govwilliam.mckinley>
Date: 2/8/2013 11:38:11 AM
Subject: Donlin EIS: Agency Scoping meeting supporting materials (re-sending revised version)
Attachments: Donlin_Agency Scoping Meeting_130206.pdf
ADEC Donlin Cooperating Agency Meeting Information.docx

Friends,

Welcome to Bob Charles from the Knik Tribe and Lee McKinley representing ADFG. Going forward you will be receiving the routine distributions to the cooperating agencies.

I also want to pass on again the words of appreciation from Don and Glen at the Corps, and from the EIS Team, for a very focused and constructive agency scoping meeting. URS will circulate notes from the meeting by early next week. We welcome any written submission from the agencies that could be compiled and distributed with those notes. I recognize that several agencies referred to more formal written agency comments which may come later in the scoping period, which ends on March 29, 2013.

Please find attached a revised version of the Donlin Gold presentation. This version is printed with one slide per page, which improves readability for some of the complex images. (Thanks to several colleagues who made this suggestion.)

Also attached is the submission from Gary Mendivil at ADEC, which was previously sent. This is very informative in regard to the ADEC permit types and associated NEPA analysis topics. If other agencies were able to follow this model in written summaries, I am sure we could all benefit.

Thank you.

Taylor Brelsford
Senior Environmental Scientist/Planner
URS Corporation
700 G St., Suite 500
Anchorage, AK 99501
Direct: 907-261-6705
Fax: 907-562-1297
Cell: 907-244-2992

DONLIN GOLD Project Overview

EIS Cooperating Agency Scoping Meeting

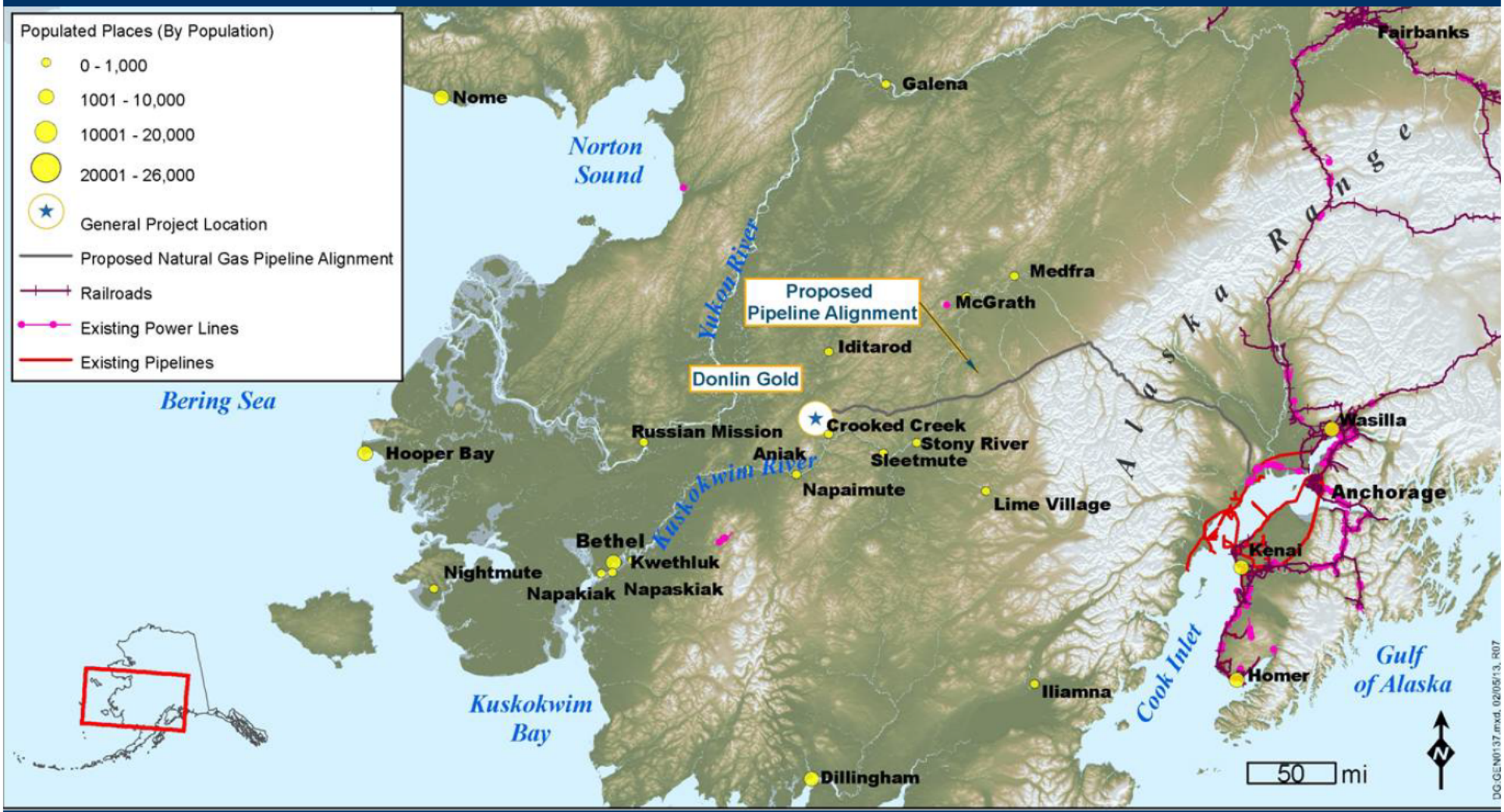
BLM Anchorage Field Office

February 6, 2013

Agenda

- Introduction
- Project Summary
- Geology & Mining
- Mill/Process
- Water Management
- Logistics & Infrastructure
- Reclamation & Closure
- Community Engagement

Location


Populated Places (By Population)
0 - 1,000
1001 - 10,000
10001 - 20,000
20001 - 26,000
General Project Location
Proposed Natural Gas Pipeline Alignment
Railroads
Existing Power Lines
Existing Pipelines
Nome
Norton Sound
Galena
Fairbanks
Yukon River
Proposed Pipeline Alignment
Medfra
McGrath
Iditarod
Donlin Gold
Bering Sea
Russian Mission
Hooper Bay
Aniak
Crooked Creek
Stony River
Sleetmute
Napaimute
Lime Village
Kuskokwim River
Bethel
Kwethluk
Nightmute
Napakiak
Napaskiak
Alaska Range
Wasilla
Anchorage
Kenai
Cook Inlet
Gulf of Alaska
Homer
Iliamna
Kuskokwim Bay
Dillingham
50 mi
N

Donlin Camp

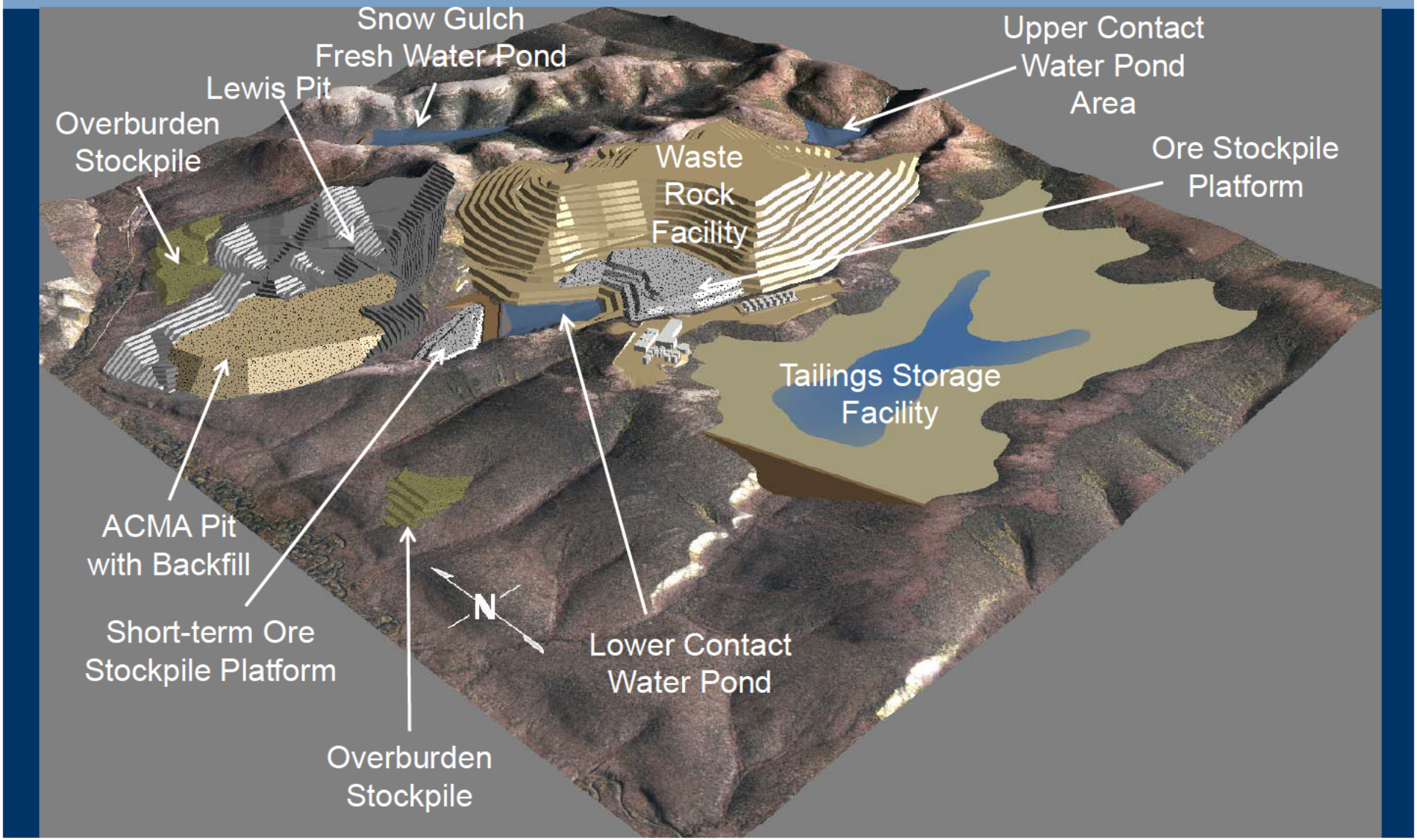
Donlin Gold

- Donlin Gold LLC is 50/50 partnership
  - Barrick Gold US
  - NovaGold Resources
- Operates under land agreements w/ ANCSA landowners
  - Calista Corporation (Mining Lease)
  - The Kuskokwim Corporation (Surface Use)
- Project office located in Anchorage
  - ~40 employees

Project Summary

- Reserve: > 33 million ounces Au (~500M tons ore)
- Mine Life: ~27 years
- Production: >1 million ounces annually
- Operation: Open-pit, conventional truck & shovel
- Milling: 59k st/d, sulfide flotation, Pressure Oxidation, Carbon-in-Leach (CIL) recovery
- Strip ratio: ~5.5:1 = ~3B tons waste rock
- Tailings: Fully lined storage facility
- Power: ~150MW, supplied by 313 mile, 14" buried natural gas pipeline
- Logistics: All consumables supplied by Kuskokwim River transportation system w/ port near Jungjuk Creek

Site Layout


Snow Gulch
Fresh Water Pond
Lewis Pit
Overburden
Stockpile
Upper Contact
Water Pond
Area
Ore Stockpile
Platform
Waste
Rock
Facility
Tailings Storage
Facility
ACMA Pit
with Backfill
Short-term Ore
Stockpile Platform
N
Lower Contact
Water Pond
Overburden
Stockpile

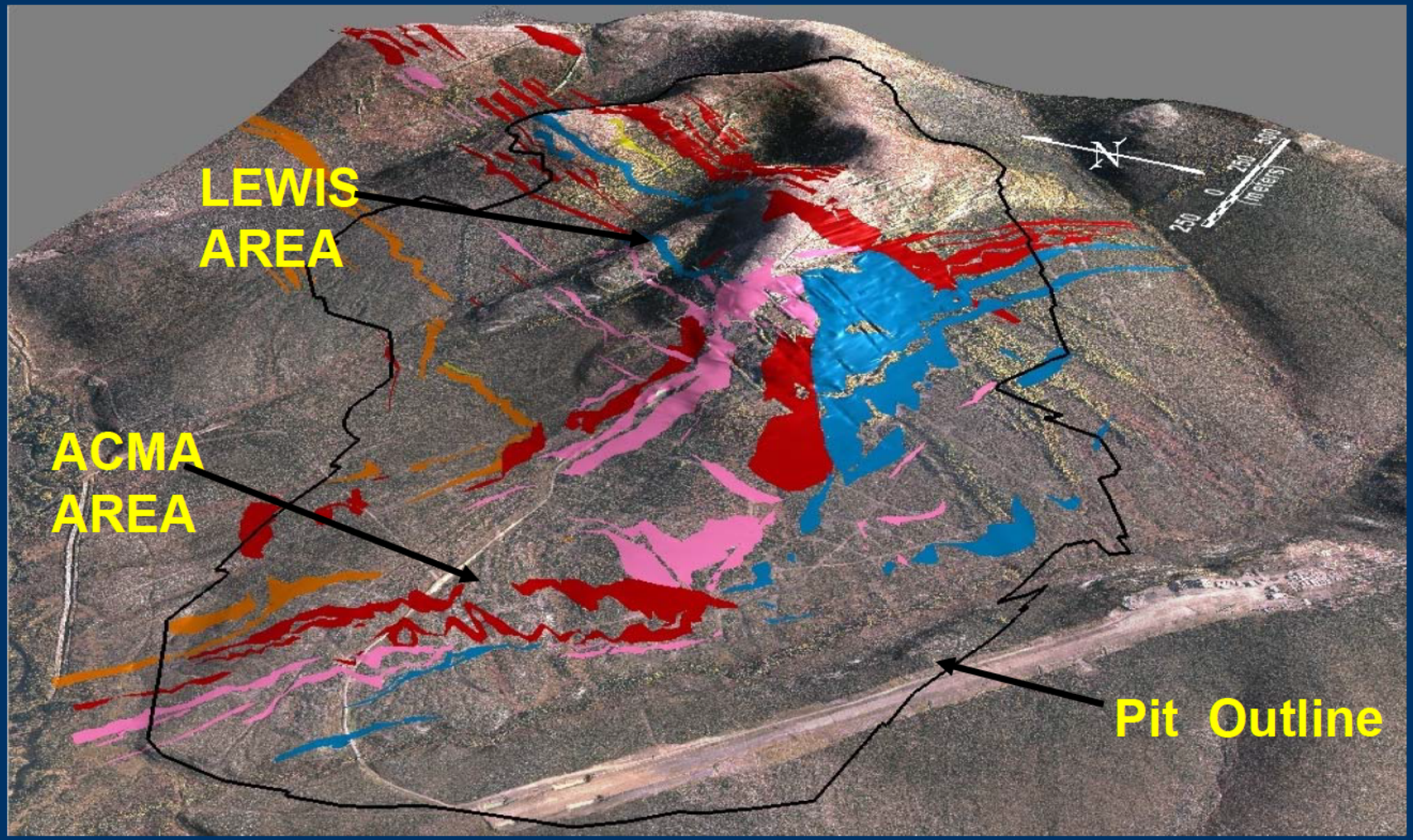
Disturbance Footprint

- Facilities Study Area (FSA)
  - Footprint ~ 10,000 acres
  - Wetland ~5,300 acres
- Pipeline Study Area (PSA)
  - Footprint ~ 6,300 acres
  - Wetland ~ 1,600 acres
- Aquatic Habitat
  - Nearly 100% direct impact to American and Anaconda creeks
  - Reduction in Crooked Creek streamflow ~2-25%
  - Total temporary/permanent linear stream impacts ~75 miles

Economic Impacts

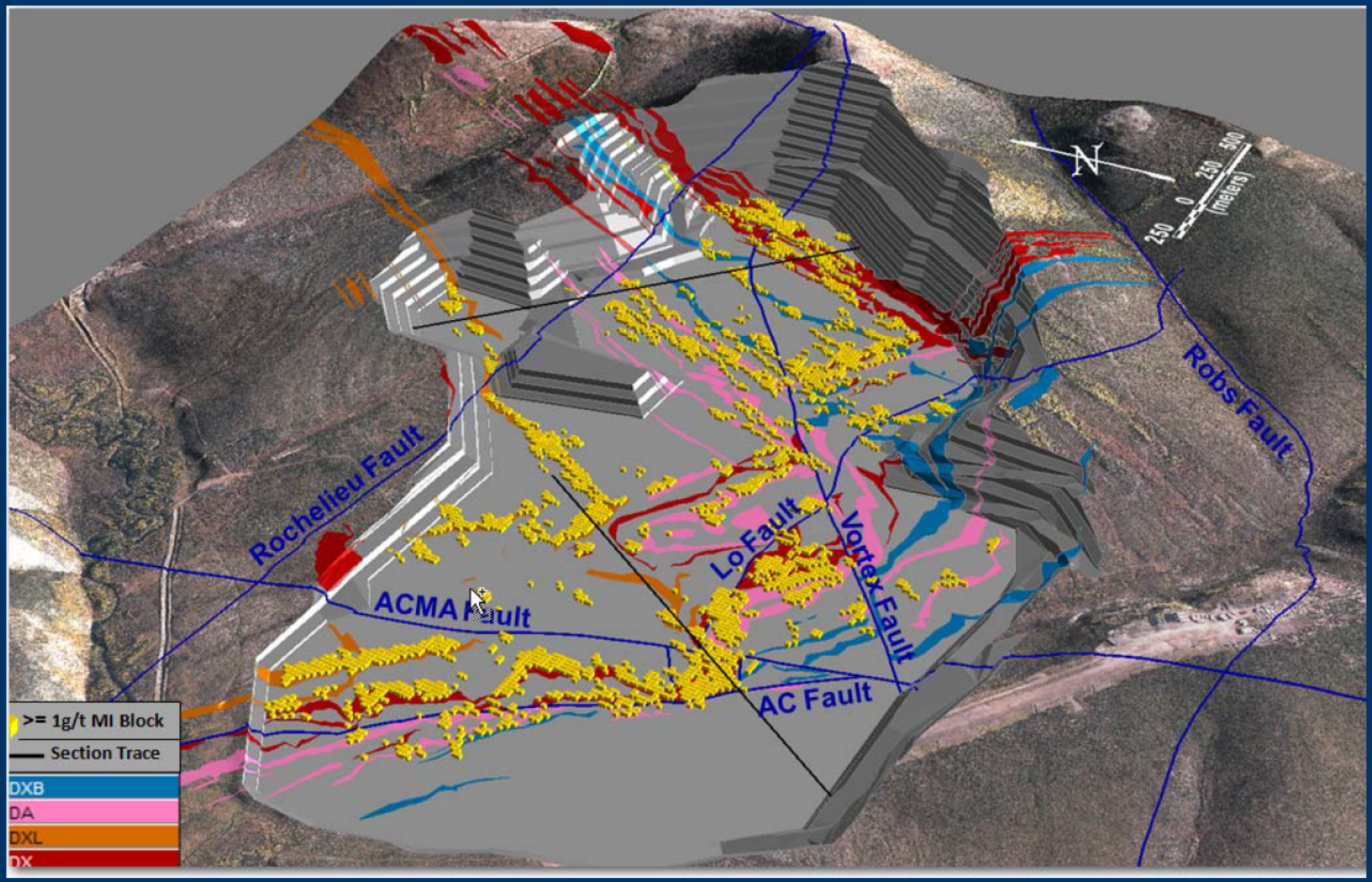
- Construction Phase (3 years)
  - Major investment in regional infrastructure
  - Workforce: ~3,000
  - Payroll: > $1 billion (~$375 million/year)
- Operations (>27 years)
  - Workforce: ~ 900
  - Payroll: ~$100 million/year
  - Indirect and induced payroll: ~$60 million/year
  - Royalties to Calista, and distributed statewide through 7(i) provision of ANCSA
  - Mining license and corporate income taxes to State

Geology

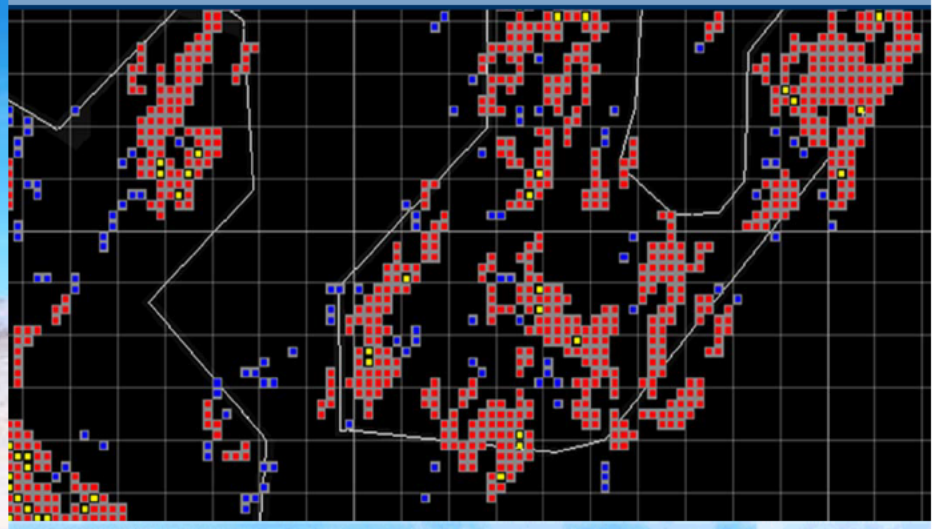


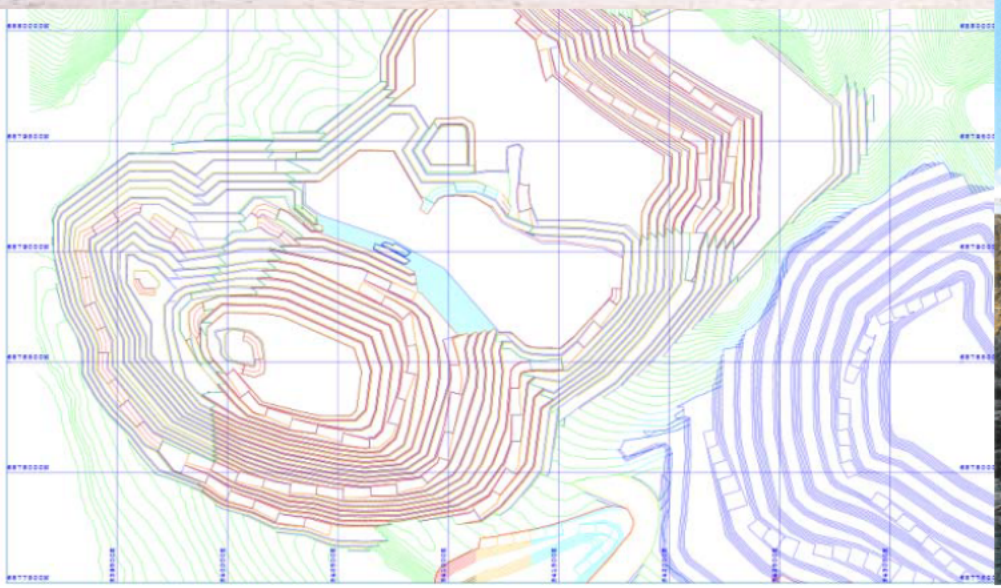
Resource

100 m bench showing +1 g/t Au blocks

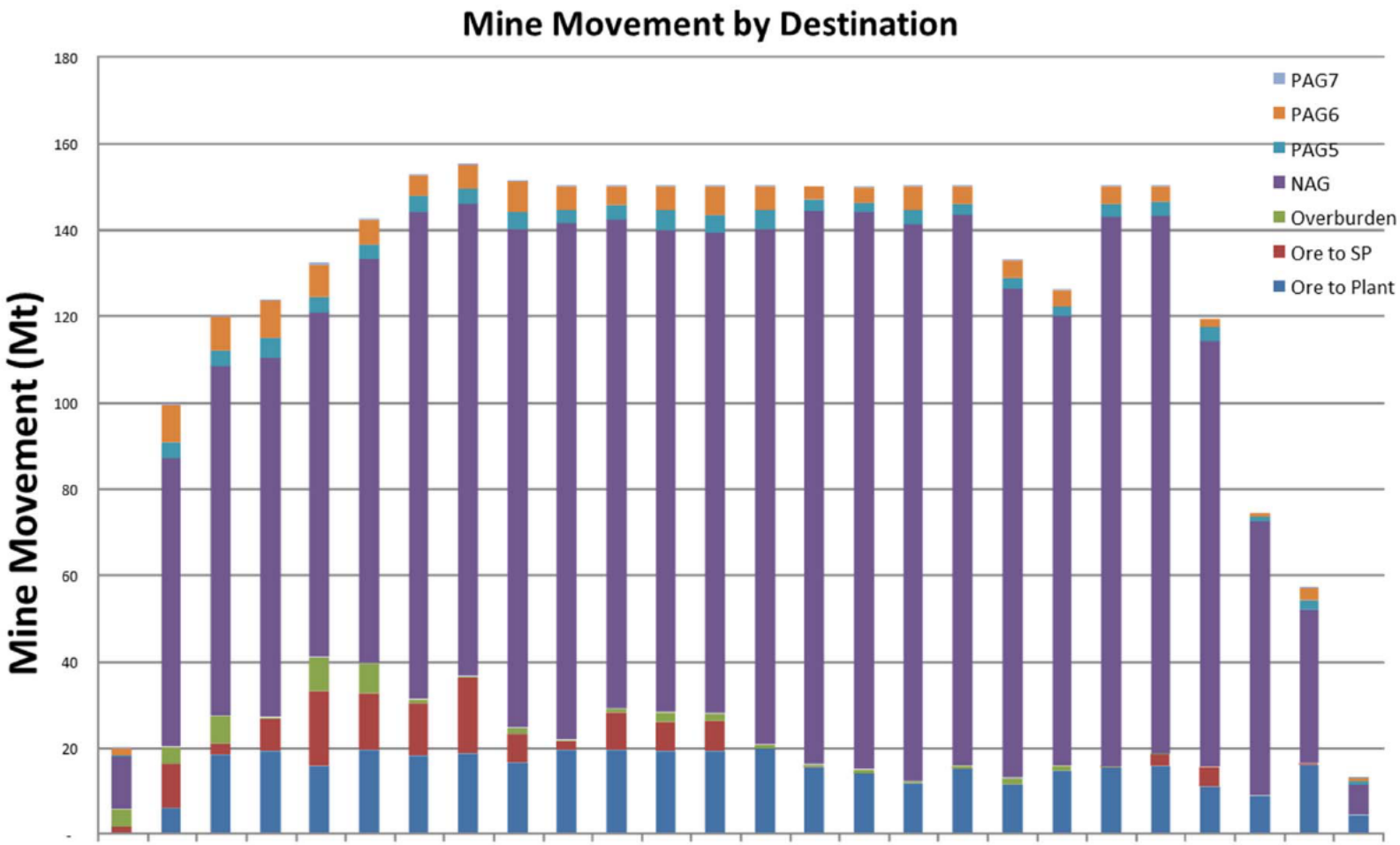


Mining

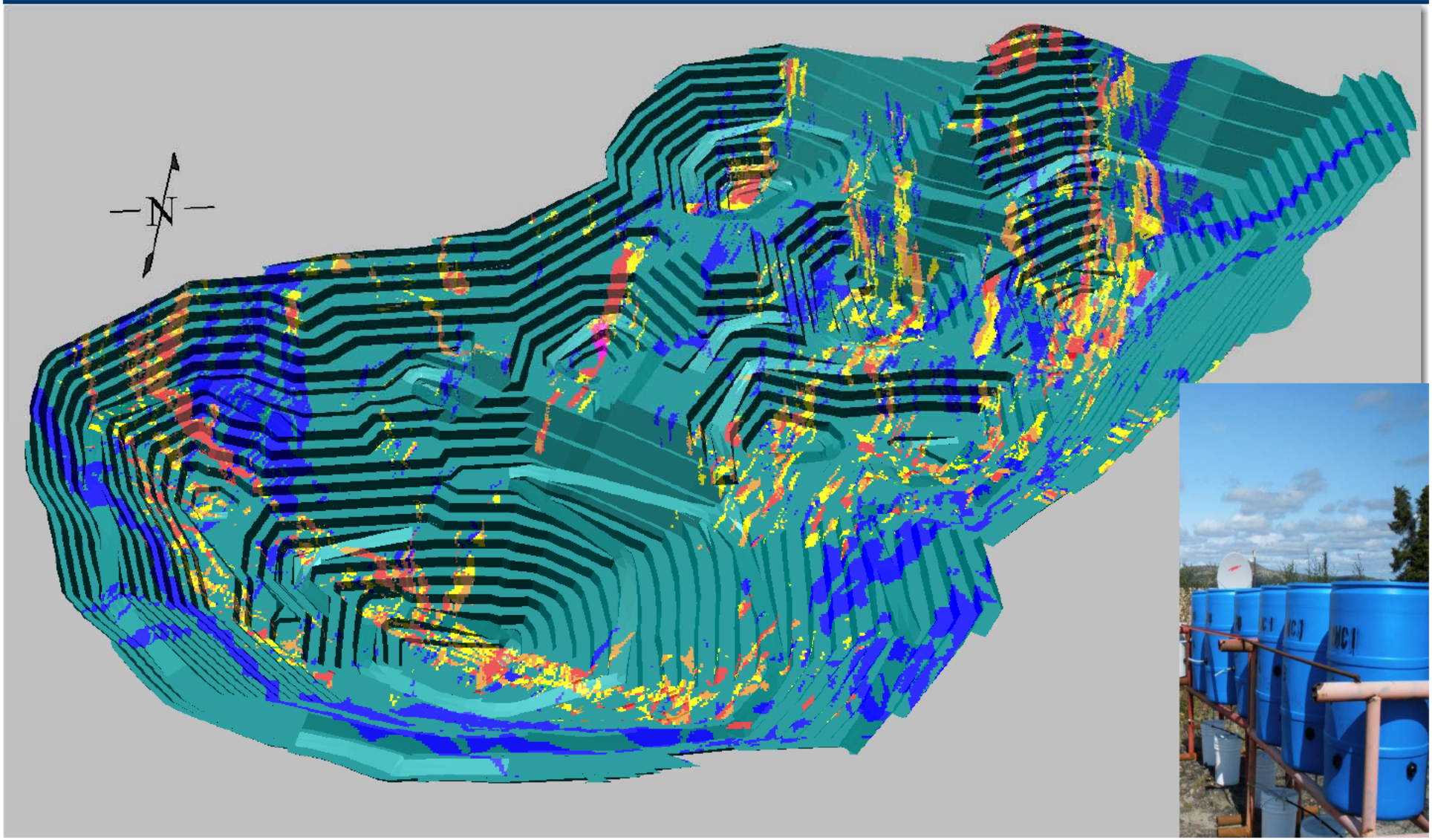




Annual Material Movement



Waste Rock Model



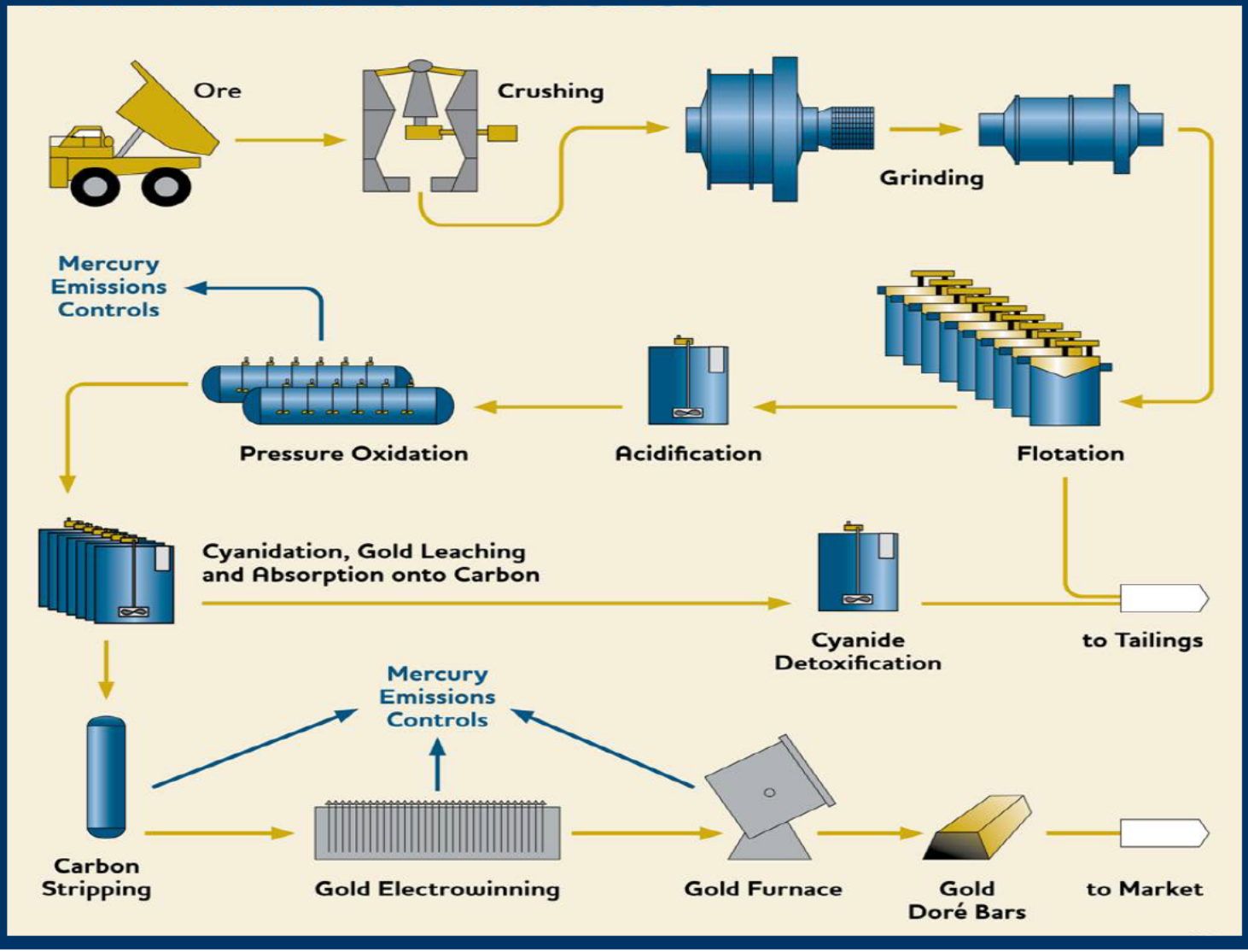
Waste Rock Classification

WRMC	Mt	%	Disposal
NAG	2,519	93	Waste Rock Facility
PAG 5	79	3	Blended in WRF
PAG 6	123	4	Isolated cells in WRF / ACMA backfill
PAG 7	2	0.1	Low-grade ore stockpile / ACMA backfill
Total	*2,723*		

Process Mineralogy

- Au in Donlin ore is all sub-microscopic
  - Disseminated in crystal structure of arsenopyrite and pyrite, hence it is refractory.
  - Not directly leachable ("refractory")
- Arsenopyrite is primary host accounting for ~80% of Au in feed.
- Pyrite, although 3-10 times more abundant than aresenopyrite, carries ~20% of the gold.

Process Flowsheet



Mill Site Layout

Mercury Abatement

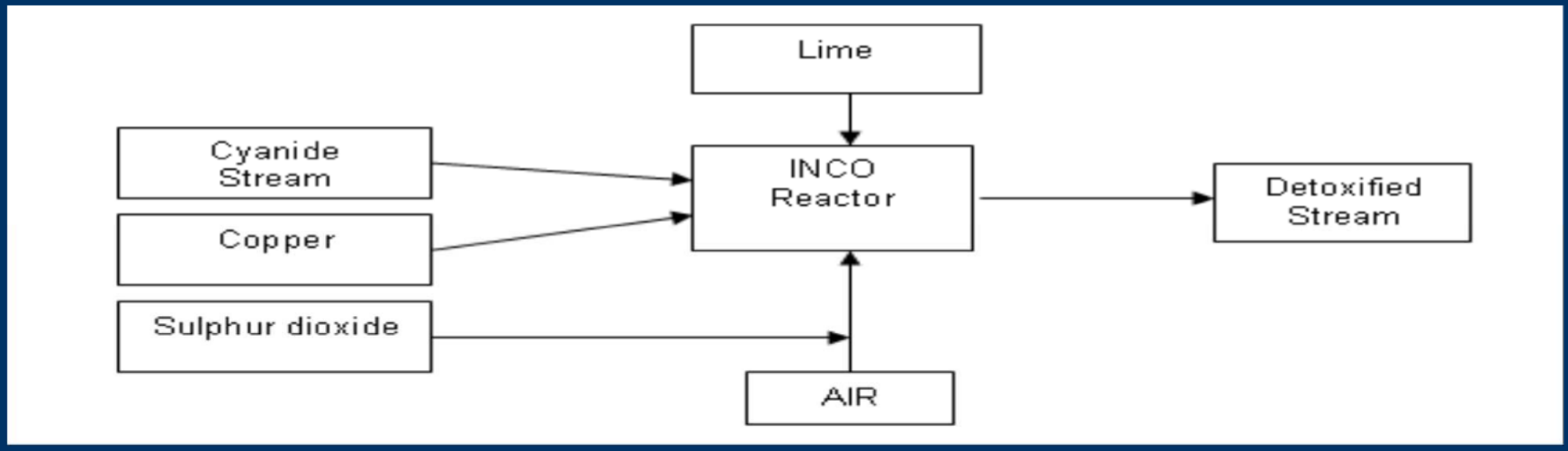
- Major focus during process design
- Expertise developed at Barrick operations in Nevada
- Mercury volatized when heated
  - Autoclave, Carbon Regeneration Kiln, Smelter, Electro-winning Circuit, Retort
- Control design elements
  - Gas quenching
  - Particulate removal
  - Refrigeration
  - Carbon beds

Cyanidation Control

- Process Design and Handling Systems conform to the International Cyanide Management Code (ICMC).
  - Voluntary initiative for cyanide management.
  - Minimize personnel & environmental exposure through design and application of physical & automated control
- Includes:
  - HCN Monitoring (gaseous)
  - Covered leach tanks, operating under partial vacuum (surface) reporting to dedicated gas scrubbing
  - Tan theta design principle for slurry spillage
  - Minimum of two physical spillage control systems
  - Specially designed Iso-tainers
  - Detoxification of residual cyanide in tailings.

Cyanide Detoxification

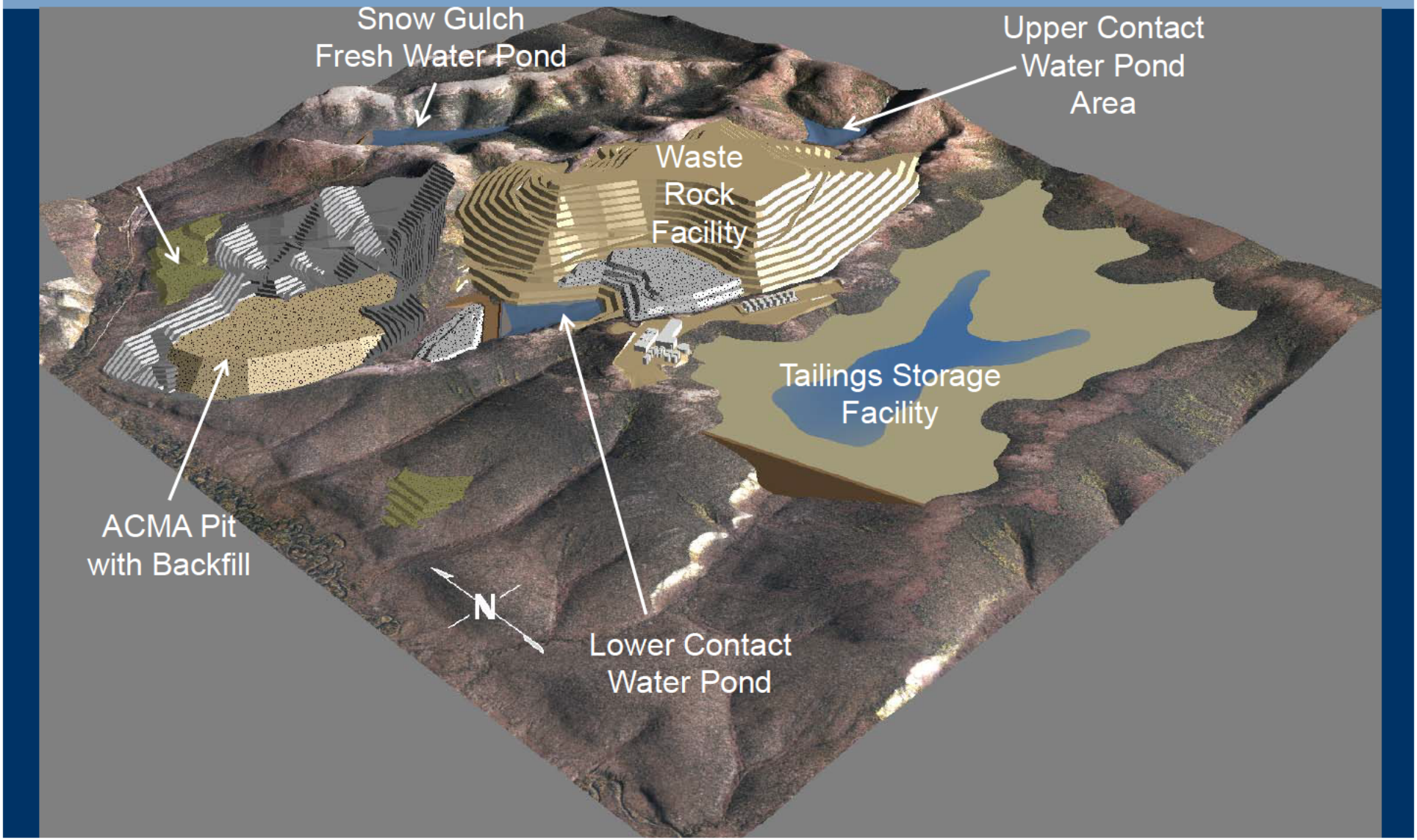
- INCO Air/SO2 cyanide detoxification pre-treatment of the CIL tailings is completed before going to tailings storage facility
- Well known, well tested process



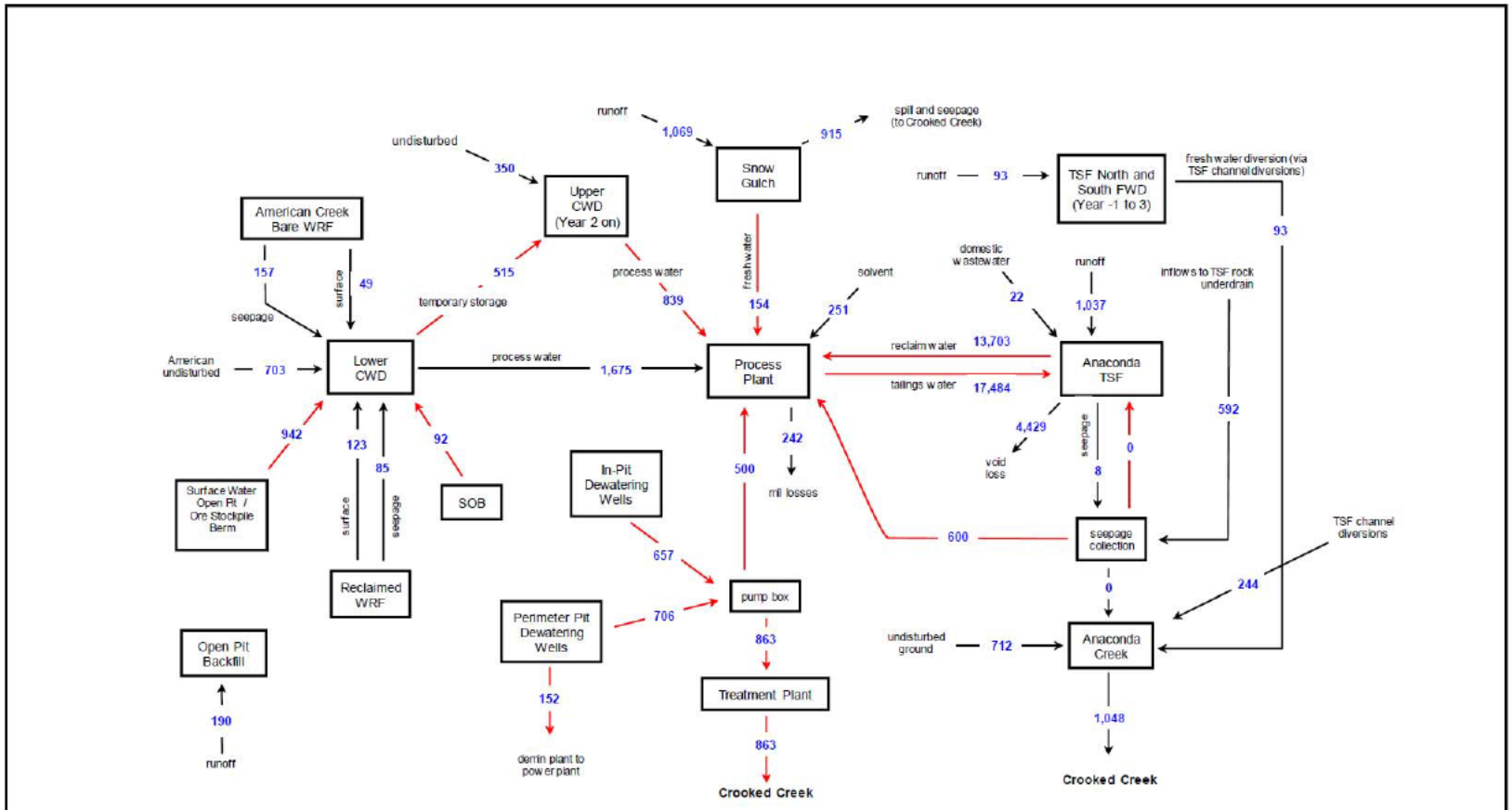
Water Management

- Objectives
  - No discharge of process water during operations
  - Ensure sufficient supply of water during operation
  - Minimize amount of water that has to be treated
- Components
  - Precipitation ~20 in/year
  - American and Anaconda watersheds ~ 7 mi^2 each
  - All contact water captured, used, or stored onsite
  - Discharge of treated dewatering water

Water Management



Water Balance



Note: Values shown are averaged over the simulation period (Year 2 to 27). Rates are in USgpm.
Red arrows denote pumping routes.
Note that all nodes do not balance, in particular the contact water dams and fresh water dam. These nodes do not balance as the dams either start with or end with a surplus of water.

SCALE: N/A

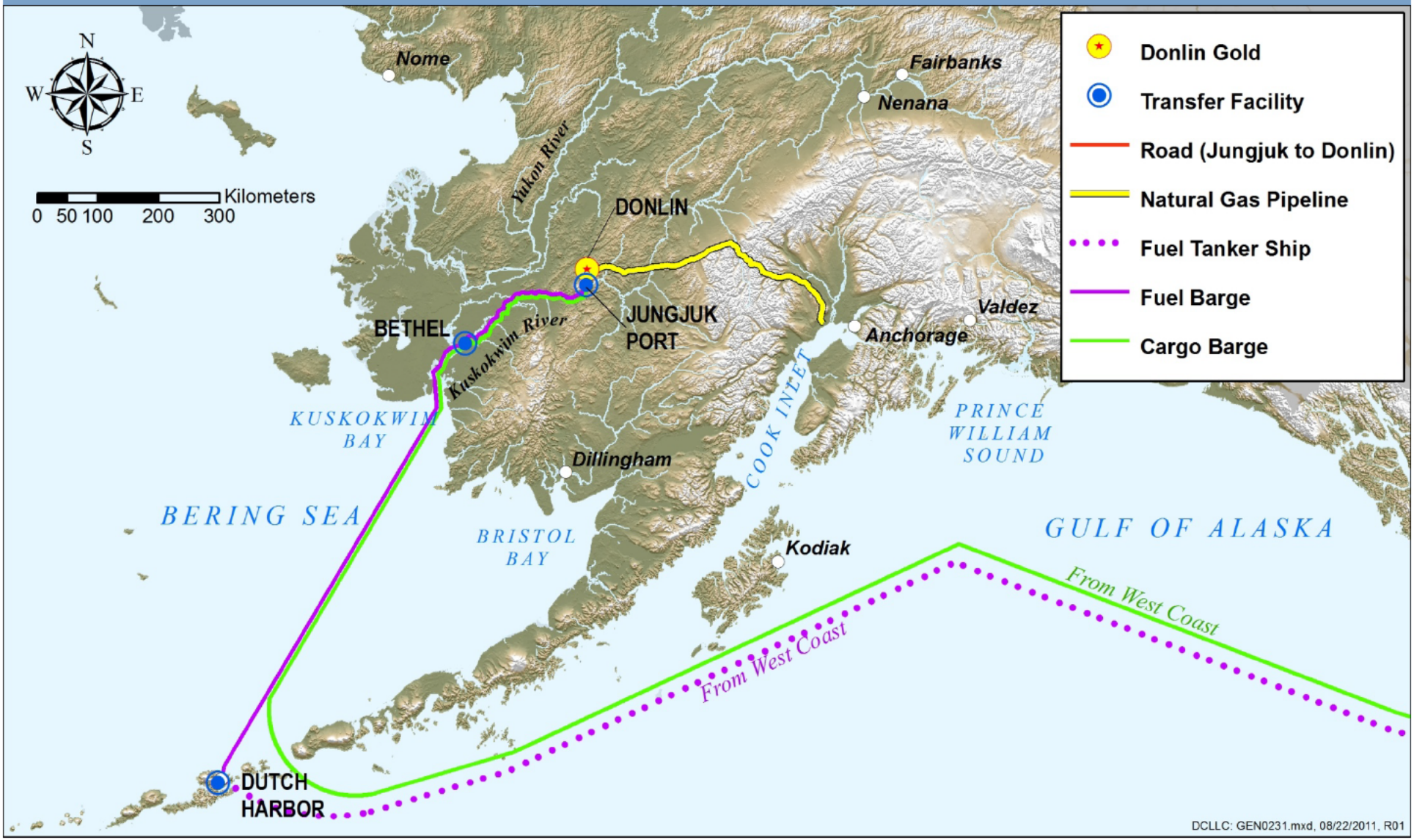
SCHEMATIC WATER BALANCE - OPERATIONS (Year 2 to Year 27)

DONLIN GOLD PROJECT

FIGURE: **B-2**

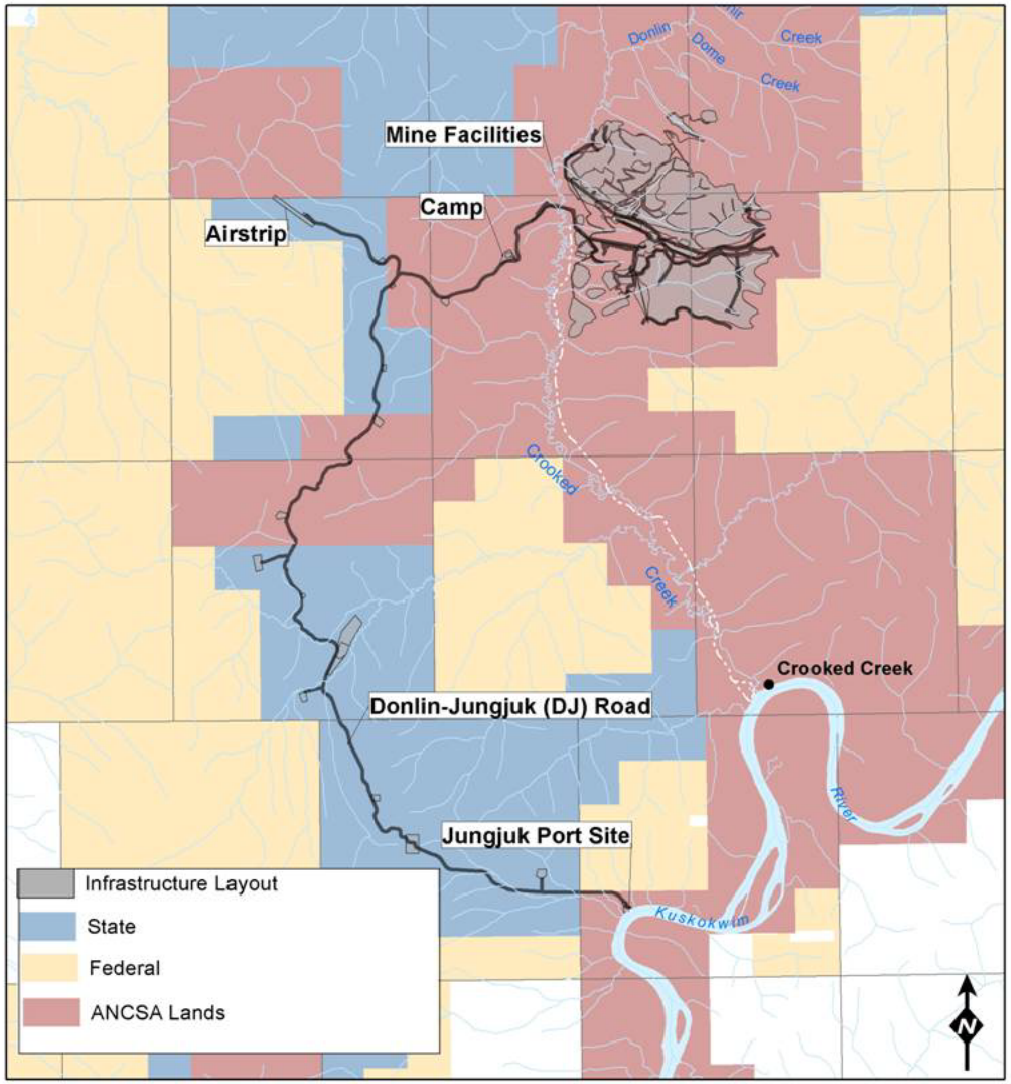
DG: PER0116.mxd, 07/13/12, R04

Logistics & Supply Chain



Access & Infrastructure

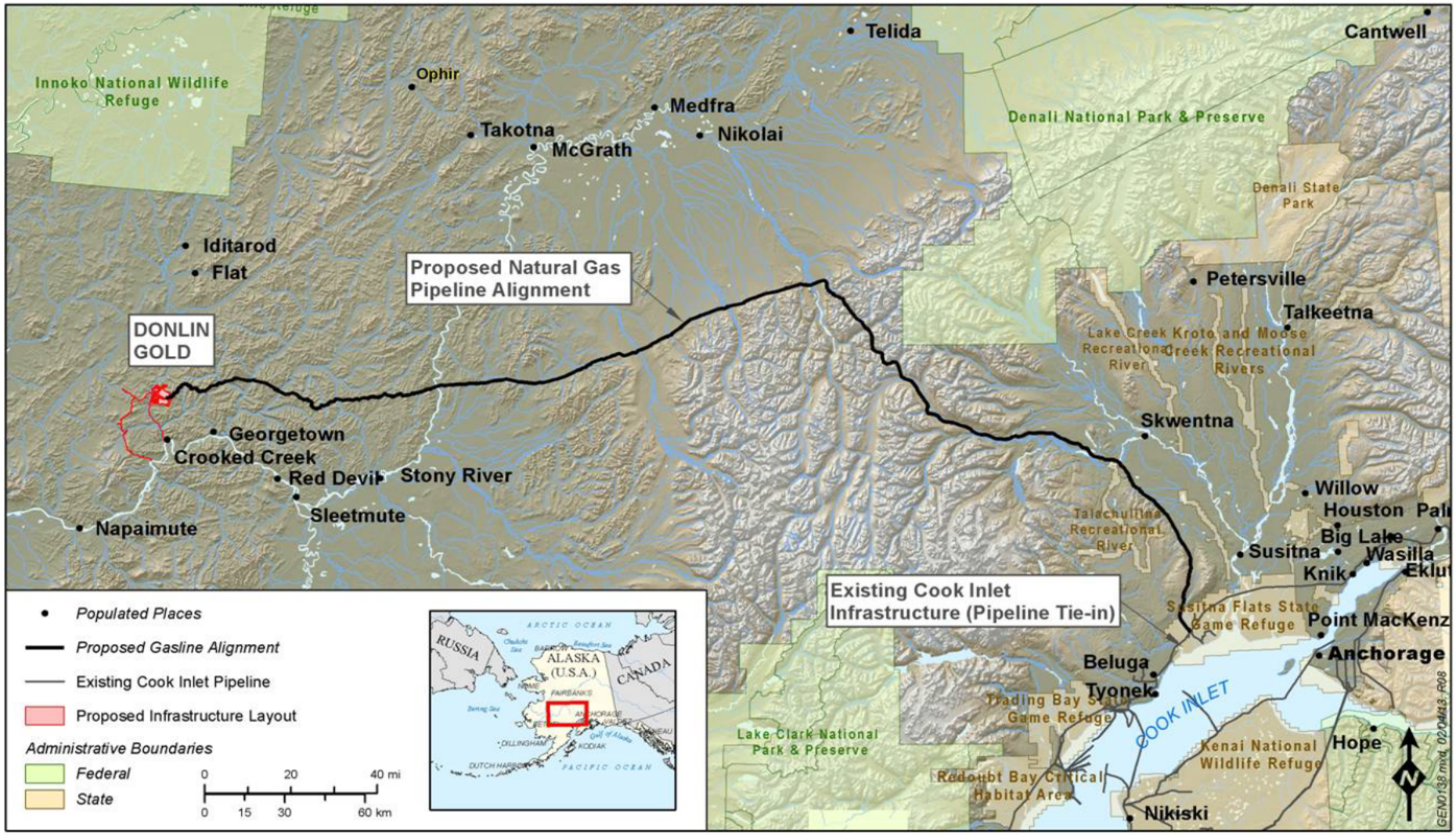
- 27 mile road
- 5000 foot runway
- two port facilities
- 600 bed permanent camp
- 2500 bed construction camp
- ~40 million gallon diesel storage



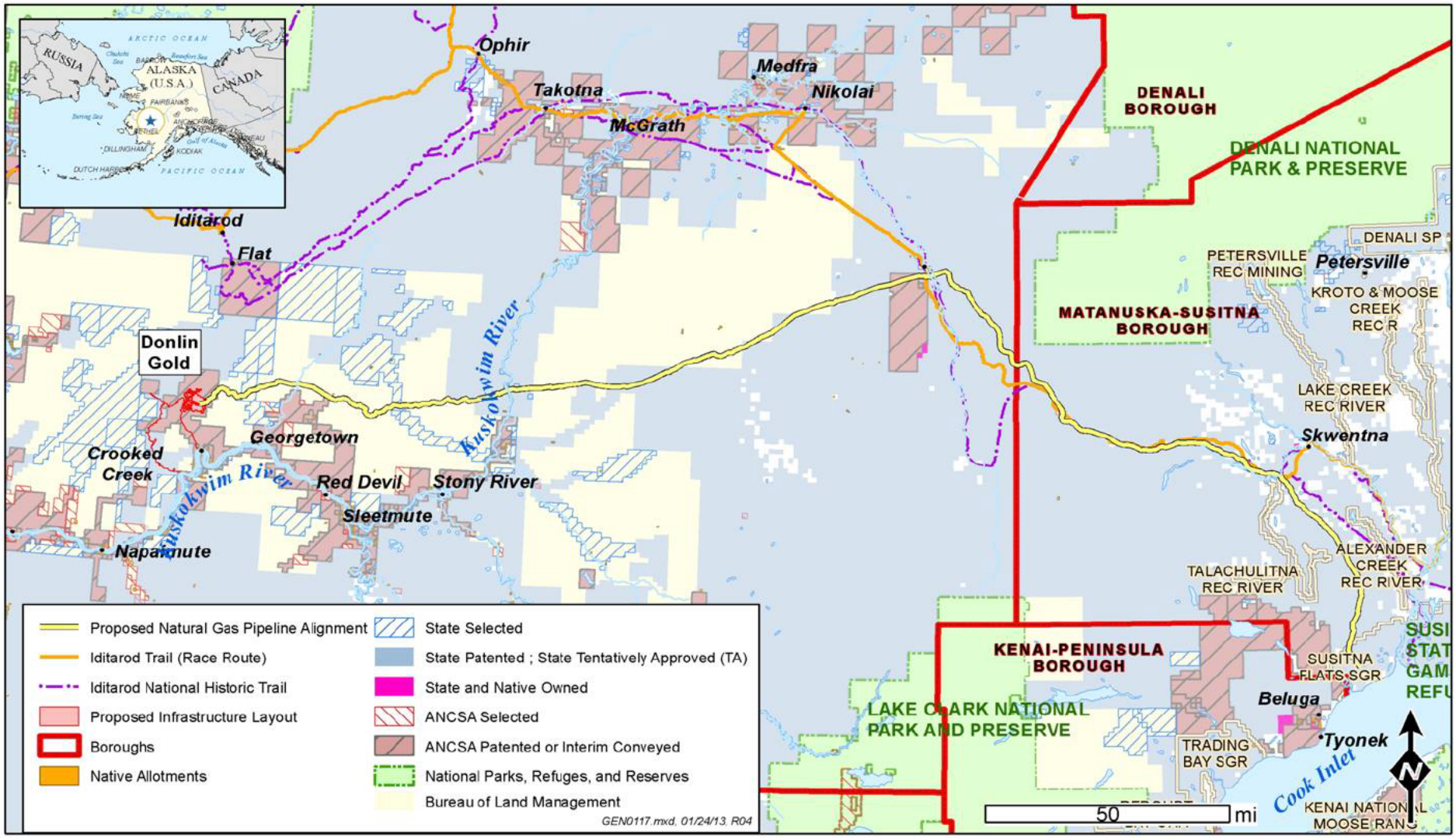
Gas Pipeline

- Description
  - 313 mile, buried, 14” steel pipeline
  - ~70 mmscfd capacity
  - 1,480 psig max allowable operating pressure
- Land Status
  - ~56% State, ~34% BLM, ~10% ANCSA/Private
- Facilities
  - Single compressor station
  - Pig-launching/receiving stations (start, middle, end)
  - ~19 block valves
  - Cathodic protection, leak protection, and SCADA system
- Construction
  - 2 construction spreads, each with 3-4 sections
  - Construction period over 2 winters and 2-3 summers
  - Season for each section based on terrain and geotechnical conditions

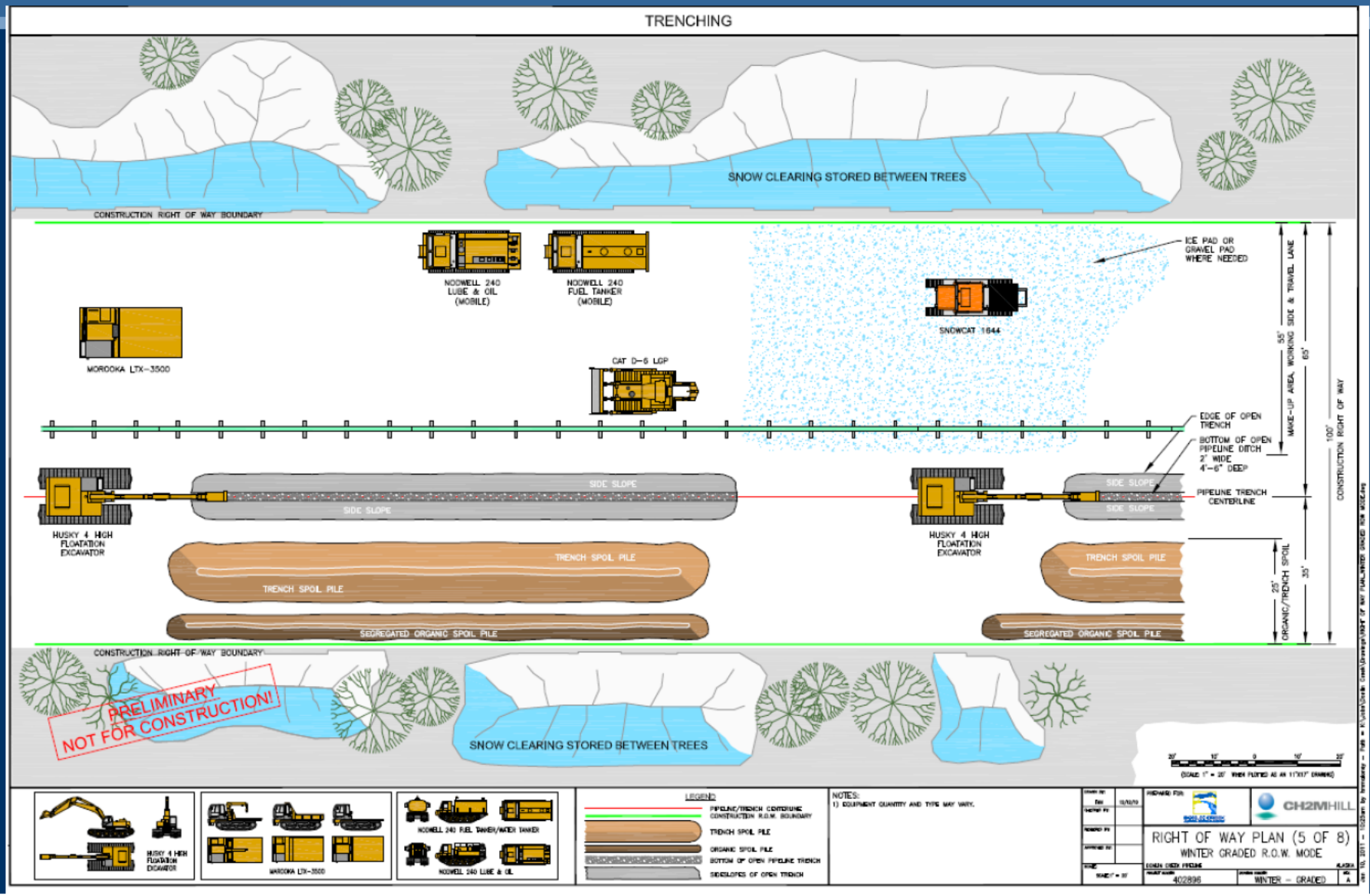
Natural Gas Pipeline Route



Pipeline Land Status

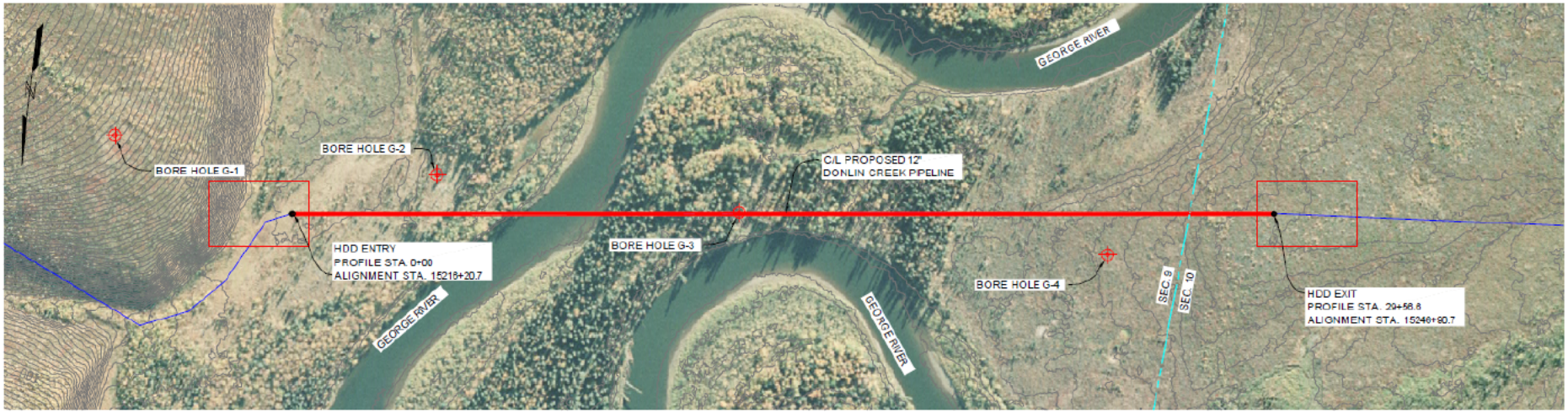


Trenching Typical

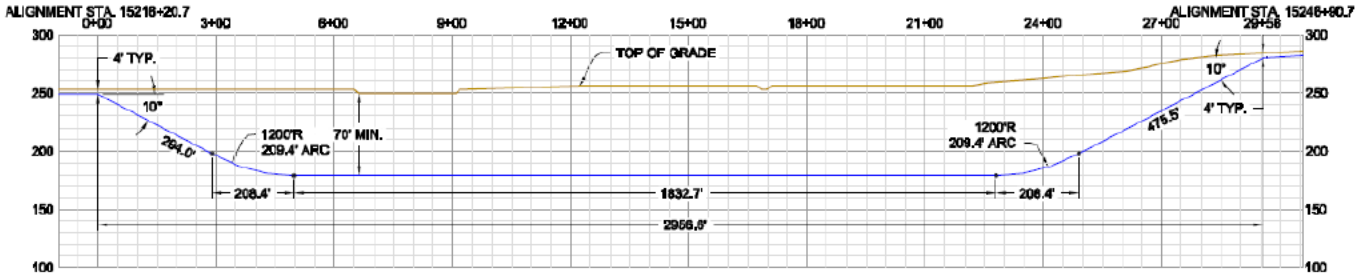


HDD Typical

EXHIBIT "A"
CROSSING DETAIL: GEORGE RIVER
LOCATED IN SECTIONS 9 & 10, T23N, R45W



PLAN VIEW
SCALE: 1" = 300'



PROFILE VIEW
HORIZONTAL SCALE: 1" = 300'
VERTICAL SCALE: 1" = 100'

NOTES:
1.) ALL FOREIGN UTILITY LINES SHALL BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
2.) CH2MHILL ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY FOREIGN UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF FOREIGN UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOWN ON THE DRAWING.
3.) EXISTING INFRASTRUCTURE WILL BE LOCATED PRIOR TO CONSTRUCTION BY THE CONTRACTOR. INSTALLATION DEPTH OF THE PROPOSED 12" PIPELINE WILL BE ADJUSTED UP OR DOWN TO KEEP A 24" MINIMUM CLEARANCE FROM EXISTING STRUCTURES. MINIMUM DEPTH OF THE PROPOSED 12" PIPELINE WILL MEET OR EXCEED EXISTING GOVERNING AGENCY REQUIREMENTS FOR THIS CROSSING.
4.) CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF THE DEPTH OF ALL WATER CROSSINGS PRIOR TO DRILLING. ONCE THE DEPTH IS FIELD VERIFIED, THE MINIMUM COVER MUST BE RECALCULATED AND REPORTED BACK TO THE COMPANY.

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPR.
C	UPDATED LIDAR, REVISED HDD	03/07/11	KMR	TKL	CLJ
B	UPDATED PER CURRENT STATIONING	10/28/10	SEH	TKL	CLJ
A	ISSUED FOR REVIEW	05/22/10	AWM	TKL	CLJ

CLIENT: DONLIN CREEK
PREPARED BY: CH2MHILL

CROSSING DETAIL
GEORGE RIVER

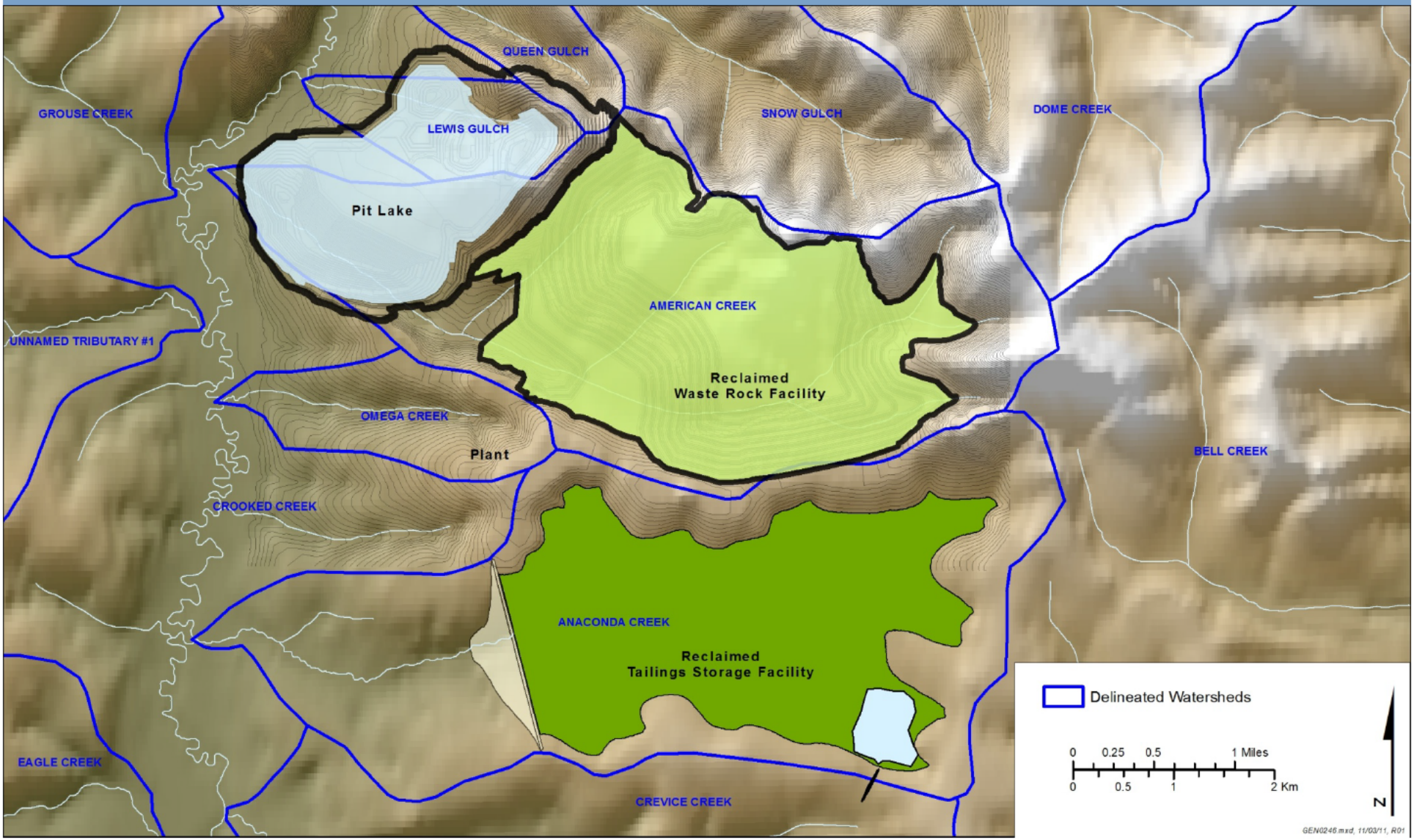
SCALE: AS NOTED
DRAWN BY: AWM
DRAWN DATE: 05/22/10
CHECKED BY: TKL
PLOT DATE: 03/10/11

RIV-XING-005
REV. C

Reclamation & Closure

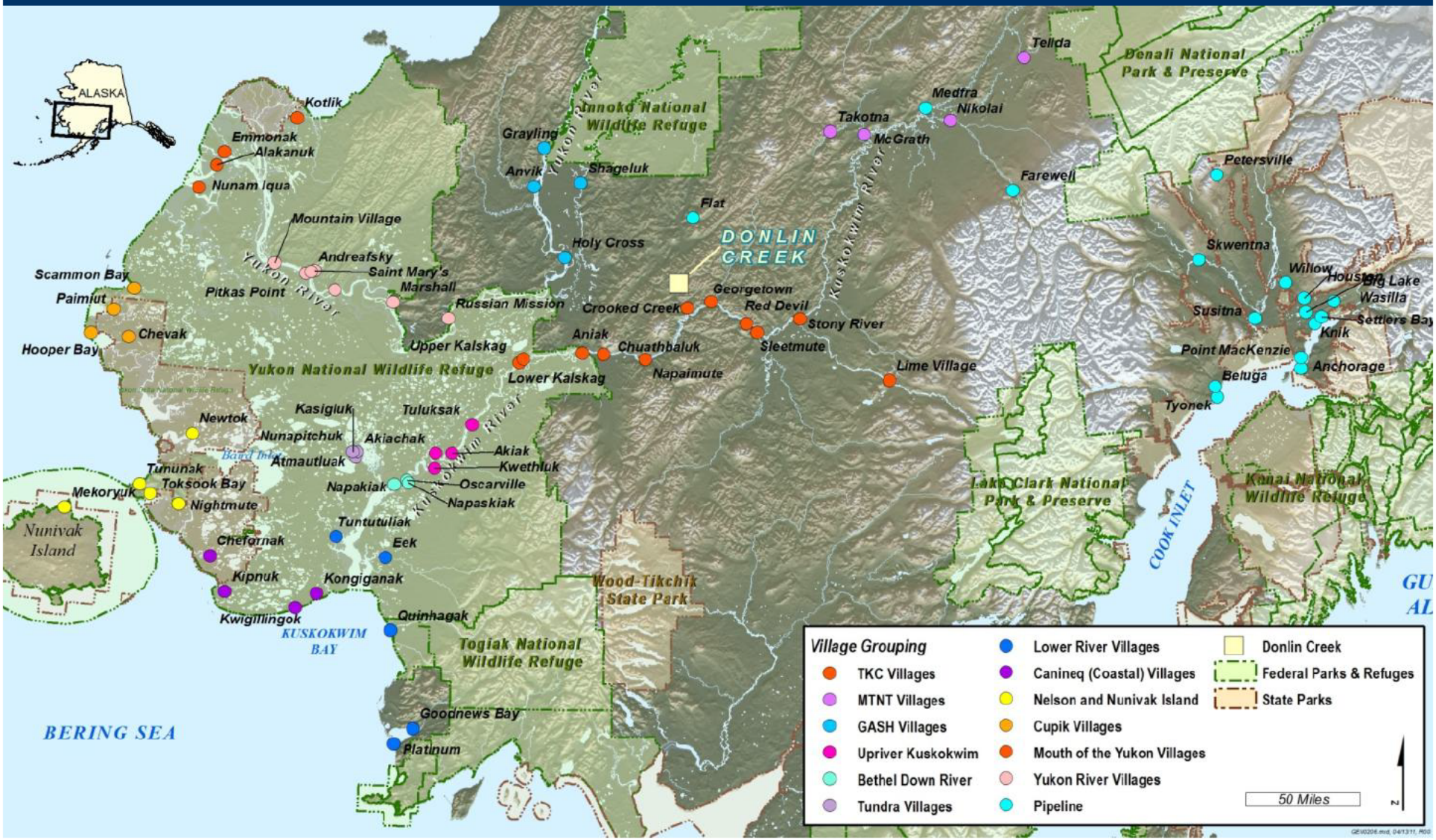
- "Design for Closure"
  - Minimize footprint
  - Maximize concurrent reclamation
  - Manage waste rock and tailings facilities for long-term stability
  - Minimize accumulation of water in facilities
- Closure Features
  - Dry closure of tailings facility
  - Removal of all process facilities
  - All contact water reports to pit lake
  - Plan for long-term treatment

Design for Closure



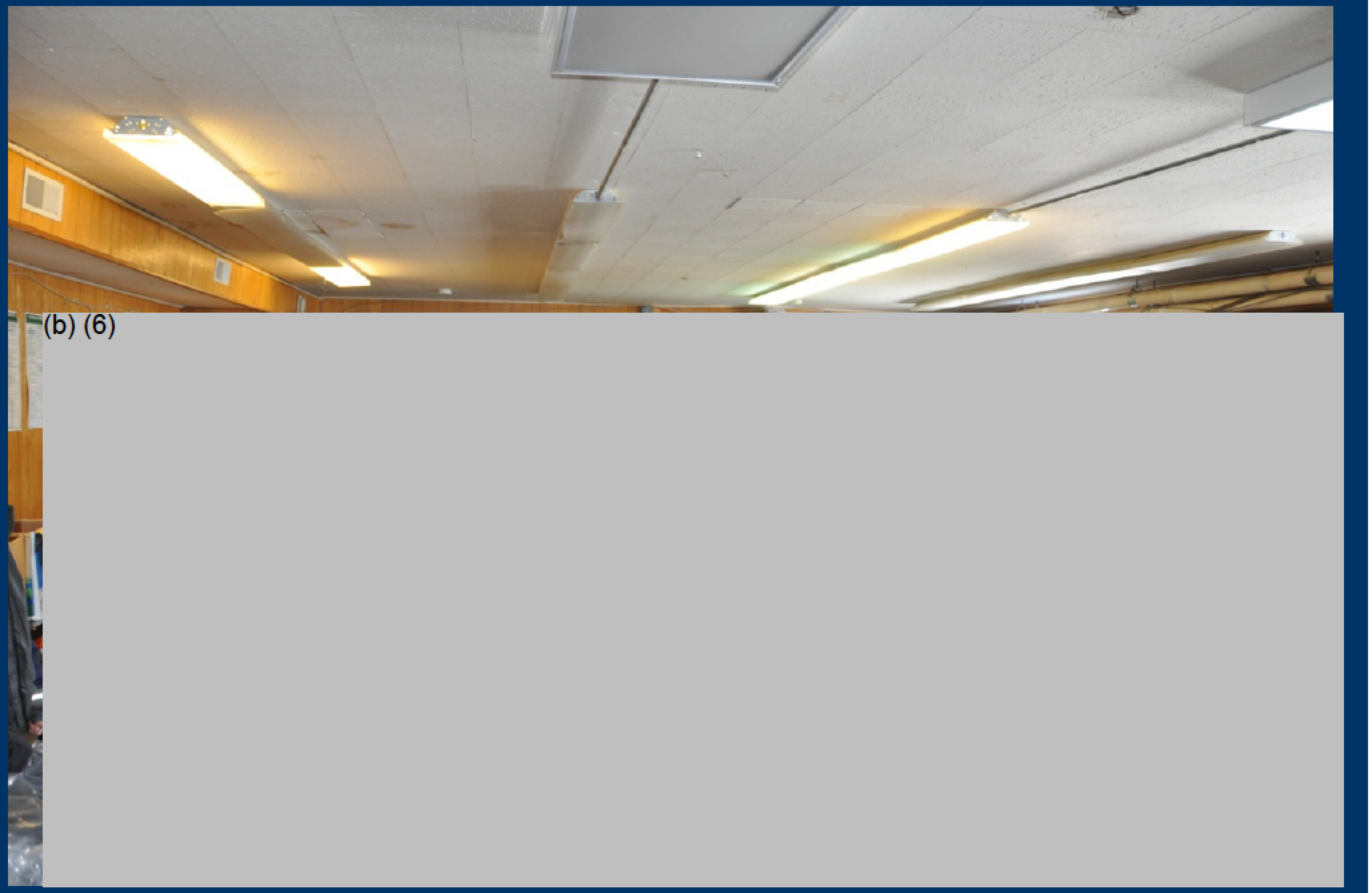
Community Engagement

Community Engagement



Stakeholders

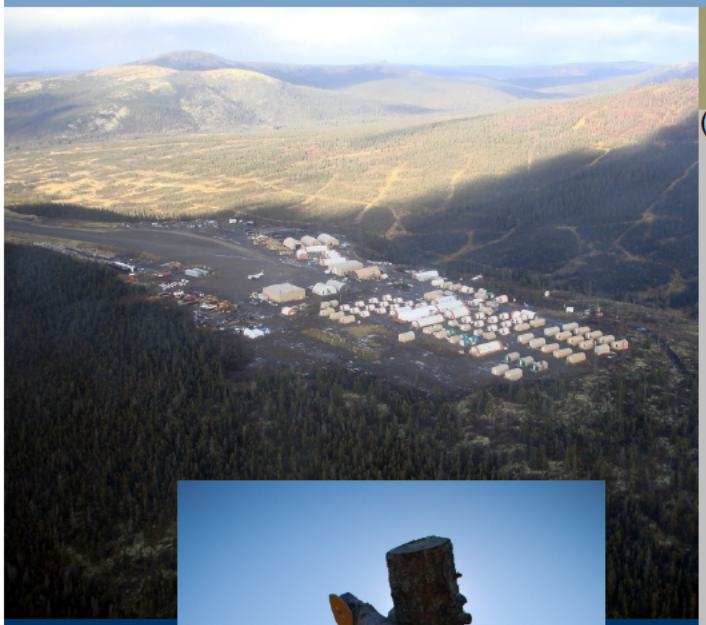
- Villages
- Tribes
- Schools
- Interest groups
- Individuals
- Governments
- Native Corporations



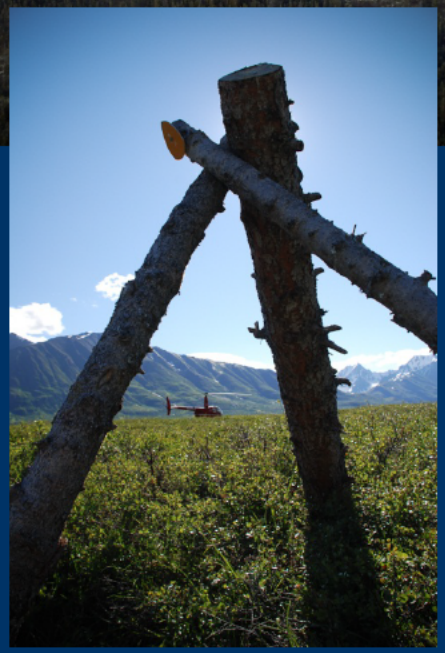
Community Engagement

- Stakeholder Dialogue
  - Village meetings, project site and mine tours
- Workforce Development
  - Jobs, training, and capacity building
- Communications
  - Monthly newsletter, website, social media
- Community Investment
  - cultural preservation, environmental protection, community wellness, education
  - community capacity building and sustainability

Questions?



(b) (6)



Alaska Department of Environmental Conservation

Responsible for protecting human health and the environment

- Develop regulatory standards and other requirements for protection of human health and the environment
- Issue permits and other authorizations for emissions, discharges, and disposal and monitor compliance with those authorizations
- Oversee oil discharge prevention and contingency planning
- Conduct oil spill drills to lower the probability and severity of spills
- Monitor and report on the quality of the environment and changes that could impact human health
- Educate and assist the public, communities, businesses and industry on all forms of environmental matters
- Work with federal agency counterparts at the Environmental Protection Agency (EPA), Corp of Engineers, Bureau of Land Management (BLM) Pipeline and Hazardous Materials Safety Administration (PHMSA) and others on federal environmental law and how it is applied in Alaska.
- Investigate violations and enforce state environmental law

The National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4347) does not require protection of the environment. NEPA simply requires agencies to consider and inform the public and the decision makers. It is the other laws and regulations that lead to protective standards for the environment.

> *"Other statutes may impose substantial environmental obligations on federal agencies, but NEPA merely prohibits uninformed – rather than unwise – decisions."* *[Robertson v. Methow Valley Citizens Council- 1989)*

Federal Law

- Clean Water Act (Section 404, 402, 401) – 33 U.S.C. 1251 et seq
- Clean Air Act (Section 309) 42 U.S.C. 7401 et seq
- Oil Pollution Act of 1990 – 33 U.S.C. 2701-2761
- Endangered Species Act (16 U.S.C. 1531 et seq)/ Essential Fish Habitat
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA)
- National Historic Preservation Act (NHPA)

Alaska Law

- AS 46.03 - Environmental Conservation
- AS 46.04 - Oil and Hazardous Substances Pollution Control
- AS 46.14 - Air Quality Control
- AS 17.20 – Alaska Food, Drug and Cosmetic Act

- 18 AAC 30 – Environmental Sanitation
- 18 AAC 31 – Alaska Food Code
- 18 AAC 50 – Air Quality Control
- 18 AAC 60 – Solid Waste Management
- 18 AAC 62 – Hazardous Waste
- 18 AAC 70 – Water Quality Standards
- 18 AAC 75 – Oil and Hazardous Substances Pollution Control

PERMITTING AUTHORITY	NEPA ANALYSIS
Air Emissions	Air Emissions – Total for Entire Project
Construction Permits – Power Plant	Pipeline Project Emissions
Operating Permits – Power Plant	Construction Emissions
	Operations Emissions
	Mine Project Emissions
	Construction Emissions
	Operations Emissions-
	Port Project Emissions
	Construction Emissions
	Operations Emissions
Open Burn Permits – Land Clearing	Greenhouse Gas Emissions
Wastewater Discharges / Water Quality	Wastewater Discharges / Water Quality
Mine Tailings Facility Discharge Permit	Mine Tailings Facility Discharges
Wastewater Treatment and Disposal Permit	Mine Processing Facility Discharges
Domestic Wastewater Permit (Camp)	Domestic Wastewater Permit (Camp)
Domestic Wastewater Permit (Construction)	Domestic Wastewater Permit (Construction)
Stormwater Program General Permit	Pipeline Construction Stormwater Discharges
Hydrostatic Test Water Discharge (pipeline)	
Water Quality Certification of Fill Permit	Section 404 Permit – Wetlands Permit
Water Quality Monitoring Plan Approval	
Quality Assurance Project Plan	
Solid Waste	Solid Waste
Industrial Waste Monofill Solid Waste Permit	Mine Tailings Plan
Integrated Waste Management Permit	Reclamation and Closure Plan
Proof of Financial Responsibility (in consultation with DNR)	Post Closure Monitoring
Reclamation and Closure Plan	
Spill Prevention and Response	Spill Prevention and Response
Fuel Storage Tank Authorizations	Fuel Storage/Transport
Fuel Transport Vessel Spill Response Plans	Effect of potential fuel spills on land and water
Environmental Health	Environmental Health
Drinking Water System Permit	Effect of population increases on local drinking water systems
Food Service Permit	Mercury issues
Contaminated Sites	Contaminated Sites